CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Lab No: CTCE/BBMP/W.No.04/KRIDL/CSR-7788a/CEMENT/2015-16 Date: 03.07.2015

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer**, Yelahanka New Town Sub Division, BBMP, Bangalore.
*AGENCY	:	**Technical Manager (West)**, KRIDL, Bangalore.
*NAME OF THE WORK	:	Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th A main in A sector in Ward No.04, BBMP, Bangalore.
*REFERENCE	:	BBMP/AEE/YNSD/136/2015-16 Dated: 01.07.2015
SAMPLE ID	:	Cement - Sample 1
SAMPLE RECEIVED ON	:	01.07.2015
PERIOD OF TESTING	:	01.07.2015 to 03.07.2015

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	165 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	465 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

Information is furnished by the Customer/Representative.

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T-2377

Lab No: CTCE/BBMP/W.No.04/KRIDL/CSR-7/885a/SAND-Gradation/2015-16 : 03.07.2015

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th A main in A sector in Ward No.04, BBMP, Bangalore.
Reference	: BBMP/AEE/YNSD/136/2015-16 Dated: 01.07.2015
Technical Reference	: IS : 2386 Part 1 - 1963 RA-2007
Sample ID	: Fine Aggregates - Sample 1
Sample Received on	: 01.07.2015
Date of Testing	: 03.07.2015

Total Wt. of Aggregates in gms 1000

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	93.10	90-100	90-100	90-100	95-100
2.36	77.90	60-95	75-100	85-100	95-100
1.18	54.30	30-70	55-90	75-100	90-100
600 Micron	27.80	15-34	35-59	60-79	80-100
300 Micron	9.80	5-20	8-30	12-40	15-50
150 Micron	3.30	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Sub No: CTCE/BBMP/W.No.04/KRIDL/CSR-7/883a/AGG/GR/2015-16 : 03.07.2015

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th A main in A sector in Ward No.04, BBMP, Bangalore.
Reference	: BBMP/AEE/YNSD/136/2015-16 Dated: 01.07.2015
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm) - Sample 1
Sample Received on	: 01.07.2015
Date of Testing	: 03.07.2015

Total Wt. of Aggregates in gms= **10000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.00	95-100	85-100
20	46.10	30-70	0-20
10	16.30	10-35	0-5
4.75	4.30	0-5	

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits

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Job No.: CTCE/BBMP/WNO.04/KRIDL/STEEL/2015-16 06.07.2015

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Yelahanka New Town Sub Division, BBMP, Bangalore.
Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
Name of the Work	:	Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th 'A' main in 'A' sector in Ward No.04, BBMP, Bangalore.
Reference	:	BBMP/AEE/YNSD/136/2015-16 Dated: 01.07.2015
Date of Test	:	06.07.2015
Technical Reference	:	IS: 1786-2008.

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	8	0.40	510	552	13.05	O.K	O.K

AE W-4

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T-2377

Job No: CTCE/BBMP/W.No.04/KRIDL/CSR-7/884a/CUBE/2015-16 06.08.2015

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	: Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th A main in A sector in Ward No.04, BBMP, Bangalore.
* Reference	: BBMP/AEE/YNSD/136/2015-16 Dated: 01.07.2015
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{30}
Compressive Strength as on	: 28th day
Sample Received on	: 09.07.2015

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kgs)	Failure load (KN)	Compressive strength (N/mm^2)
1	09.07.2015	06.08.2015	8.198	475.9	21.15
2	09.07.2015	06.08.2015	8.296	496.3	22.06
3	09.07.2015	06.08.2015	8.320	528.5	23.49

AE 13-4

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Job No: CTCE/BBMP/W.No.04/KRIDL/WMM/Gradation/2015-16

21.07.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of Work : Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th A main in A sector in Ward No.04, BBMP, Bangalore.

Reference : BBMP/AEE/YNSD/136/2015-16 Dated: 01.07.2015

Date of Testing : 21.07.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 7045

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	285	285	4.0	96.0	95-100
22.4	2400	2685	38.1	61.9	60-80
11.2	1500	4185	59.4	40.6	40-60
4.75	850	5035	71.5	28.5	25-40
2.36	600	5635	80.0	20.0	15-30
0.600	610	6245	88.6	11.4	8-22
0.075	500	6745	95.7	4.3	0-8

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Job No.: CTCE/BBMP/W.No.04/KRIDL/SDBC/Bit/2015-16 27.07.2015

BITUMEN CONTENT DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC:SP:-1984

CUSTOMER	Asst. Executive Engineer, Yelahanka New Town Sub Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th A main in A sector in Ward No.04, BBMP, Bangalore.
REFERENCE	BBMP/ AEE/YNSD/136/2015-16 Dated: 01.07.2015
SAMPLE I/D	Roads in sector A Ward No.04, BBMP, Bangalore.
DATE OF TESTING	27.07.2015

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	476	474
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	24	26.00
7. Bitumen content in %	4.80	5.20
8. Average	5.00	

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Job No: CTCE/BBMP/W.No.04/KRIDL/SDBC/Ba/2015-16 27.07.2015

BITUMEN CONTENT GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CUSTOMER	**Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements of drains and asphalting to roads in 2nd cross, 10th cross, 11th cross, 9th cross, 2nd main, 8th main, 10th main, 12th cross, 13th cross, 11th cross and 5th A main in A sector in Ward No.04, BBMP, Bangalore.
REFERENCE	BBMP/AEE/YNSD/136/2015-16 Dated: 01.07.2015
SAMPLE I/D	Roads in sector A Ward No.04, BBMP, Bangalore.
DATE OF TESTING	27.07.2015

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	25.35	5.33	5.33	94.67	90-100
4.75	260.4	54.71	60.03	39.97	35-51
2.36	52.32	10.99	71.02	28.98	24-39
1.18	40.25	8.46	79.48	20.52	15-30
0.3	28.56	6.00	85.48	14.52	9-19
0.075	36.22	7.61	93.09	6.91	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	36.25	7.65	7.65	92.35	90-100
4.75	258.2	54.47	62.12	37.88	35-51
2.36	35.21	7.43	69.55	30.45	24-39
1.18	32.52	6.86	76.41	23.59	15-30
0.3	35.26	7.44	83.85	16.15	9-19
0.075	45.65	9.63	93.48	6.52	3-8

AE W-4

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